

PROCEEDINGS OF THE  
ENTOMOLOGICAL SOCIETY OF WASHINGTON

VOL. 31

JANUARY, 1929

No. 1

A NEW GENUS AND FIVE NEW SPECIES OF THYSANOPTERA  
FOREIGN TO THE UNITED STATES.<sup>1</sup>

BY A. C. MORGAN.

EUPATHITHRIPIDAE, Bagnall, 1915.

CELETOTHRIPS, n. gen.

Head nearly twice as long as prothorax, not twice as long as width at base, sub-carinate, slightly constricted at base, cheeks converging posteriorly and bearing only a few spines, not set in large tubercles. Eyes not as large or as approximate posteriorly as in either *Eupathithrips* or *Sedulothrips*; ocelli very large, set on a very prominent hump, the anterior ocellus directed forward and overhanging front of head. Antennae with first joint stout and approximate; joints 3 and 4 not nearly so slender as in the other genera of the family. Sense cones shorter than in *Eupathithrips*. Mouth cone slender, reaching beyond base of prosternum. Fore legs stout in both sexes, although larger in male than in female; femur with a heavy cone-shaped tubercle near tip within; tibiae strongly incurved in first fourth and bearing tubercles successively larger from base to tip, the tubercle or spine nearest tip being flat and knife-shaped when viewed from above. Tarsi bear a very stout tooth in both sexes.

Prothorax not emarginate anteriorly, the usual spines present, slightly dilated at tips.

*Celetothrips breviceps*, n. sp.

*Female*.—Measurements: length 4.29 mm.; head, length .45 mm.; width through eyes .293 mm., at neck-like constriction .215 mm.; prothorax, length .603 mm., width through coxae .56 mm., exclusive of coxae .44 mm.; width mesothorax .603 mm., length of tube .40 mm., width at base .137 mm.

Antennal segments, in microns:

Segment.....	1	2	3	4	5	6	7	8
Length.....	77	86	155	165	163	116	112	50
Width.....	51	43	57	60	47	35	30	17

Color, dark brown to blackish brown; tarsi and fore tibiae light brown; all antennal segments slightly lighter than the body color. Wings very light brown, the posterior wing in posterior half much darker than in anterior half,

<sup>1</sup>Types to be deposited in the United States National Museum.

darkest along median longitudinal vein and fading out toward posterior margin to general color of wing.

Head indistinctly laterally striate, broadest in anterior half, in posterior half gradually converging to neck-like constriction near posterior margin, slightly carinate medially; eyes large, not protruding, finely faceted, occupying about two-fifths the length of the head and only a little more than two-thirds its width; ocelli very large, situated on a conspicuous hump which overhangs base of antennae and bears anterior ocellus at its extremity, directed forward. Posterior ocelli situated just in front of middle of compound eyes and contiguous thereto, sides of head nearly smooth, bearing one large conspicuous spine set in a small cylindrical tubercle just before neck-like constriction and directed forward at an angle of  $45^{\circ}$ ; close behind the large spine there is usually a smaller spine set and directed forward similarly to the larger spine; other spines few and small. Postocular bristles rather short and slender, antennae, approximate, situated low in front, very nearly twice as long as the head; segment 1 cylindrical; 2 with a neck-like constriction at first fourth; 3-6 inverted, cone-shaped in first halves, enlarged in third quarter, thence narrowing rather abruptly; 7 mildly fusiform, 8 cone-shaped and pointed; sense cones conspicuous, about half as long as segments upon which they are borne, placed as follows: 3 each on 3 and 4, 2 on 5, and 1 on 6; each cone is subtended by a hair nearly equaling it in length. A ventral comb of sense hairs extends from tip of 8 to about middle of 7. Mouth cone long and pointed, reaching across prosternum. Maxillary palpi long and slender, first joint very short.

Prothorax subcarinate medially, spines at posterior angles largest, those at anterior angles nearly as large and larger than lateral and marginal spines. Fore femora enlarged, about two-thirds as broad as head, armed with a short, stout, blunt tooth near the tip within. Fore tibiae strongly incurved at first fourth, and bearing on inner surface at extremity of the curve a short, stout, blunt setigerous tooth—much smaller than the one on femur; near the center of the segment within is a somewhat larger setigerous tooth shaped like the preceding; at about the third fifth there is a large broad flattened wedge-shaped tooth which bears a large seta about the middle of its inner face. Between this tooth and the tip stands a strong spine somewhat longer than the tooth opposite the wedge-shaped tooth; on the outer margin is a more slender spine about twice as long as the preceding one, and near the tip without is a spine very similar in size to the one on inner margin. The tarsus bears a very strong stout tooth approximately as long as the tarsus (excluding bladder). Mesothoracic angles rather broadly rounded; metathorax narrowed behind. Intermediate pair of legs scarcely as long as fore pair, their femora swollen in distal half; posterior pair of legs slightly longer than anterior pair, their femora only slightly thickened. Wings slender, nearly straight, anterior wing about fifteen times as long as its breadth at middle, margins nearly parallel to the last fifth, in which posterior margin curves forward so that at the tip the width is only about half the width at middle. Near the tip on posterior margin the fringe is double for about 44 hairs. Fringe on both wings long and thick. At base of wing on vein stand three spines, the first with expanded tip, second blunt, and third very long and sharp-pointed.

Abdomen rather slender. All spines sharp and gray, only moderate in size,

except those at tip of ninth segment, which are brown and slightly more than half the length of the tube. Spine at tip of tube very slender and less than half the length of the tube.

Described from four females collected under bark, Carmelina, Honduras, February, 1920. W. M. Mann, collector.

**Celetothrips breviceps, n. sp.**

*Allotype*.—Measurements: length 4.24 mm.; head, length .43 mm., width .25 mm.; prothorax, length .293 mm., width through coxae .59 mm., exclusive of coxae .48 mm.; mesothorax, width .603 mm.; tube, length .327 mm., width at base .12 mm.

Dimensions of antennal segments, in microns:

Segment.....	1	2	3	4	5	6	7	8
Length.....	85	86	155	172	163	120	112	47
Width.....	60	47	58	61	56	38	34	17

In coloration and size the male differs very little from the female, except that the fore femora are about seven-eighths as broad as the head and the spines on the fore legs are somewhat stouter than in the female.

Described from two males collected in company with the females.

**Eupathithrips bagnalli, n. sp.**

♀.—Length 5.45 mm.; width mesothorax .79 mm.

Head, length .72 mm.; width through eyes .34.

Length antennal segments, in microns:

Segment.....	1	2	3	4	5	6	7	8
Length.....	94	94	293	298	293	189	120	51

Length of sense cones on 3 and 4 about 189 microns, on 5 about 155 microns.

Wings about half as long as entire body, and at middle about one-twentieth as broad as long.

*Color*.—Very dark brown with orange pigmentation in prothorax and connective tissue. All tibiae and tarsi yellow; intermediate tibiae at sides on basal third, and posterior tibiae on basal half tinged with fuscus. Antennal joints 1 and 2 light brown, 3 yellow with very slight brownish tinge, 4, 5, basal half of 6, and basal third of 7, very light brown, distal half of 6, distal two-thirds of 7, and all of 8 darker brown.

*Head*.—Length 2.1 times as long as width through eyes; the width at the middle from tip to tip of spiniferous tubercles the same as through eyes. Cheeks each bear 7 prominent spiniferous tubercles. A spine behind each eye about one-third the distance from eye to posterior margin of head, fairly long and knobbed. Eyes large, finely faceted, rounded, contiguous in front and very nearly so behind, dorsally protruding, and very slightly less than two-fifths of

length of head. Ocelli large and almost completely surrounded by the eyes. Antennae set ventrally below anterior part of eyes and between ventral portions thereof; basal joint cylindrical, second slightly narrowed at base, joints 3 to 6 roughly claviform, 7 fusiform and 8 cone-shaped; 3-6 beyond broadest part produced into a narrow stem which is longest in 5, and in 4-6 longer than in 3. Sense cones long, slender and placed and protected as in *dentipes*, Bagn. Mouth cone long and sharp, reaching beyond base of prosternum; maxillary palpi long and slender, the first joint being very short.

Prothorax trapezoidal, one-half as long as head, and through and including coxae 2.25 times as broad as long. Posterior, midlateral, anterior, and anterior marginal spines present, well developed, and swollen at tips. Coxal spine also swollen at tip.

*Pterothorax* about as long as broad, reticulated medially. Wings reach to sixth abdominal segment, slightly tinged with yellow, midvein brown to dark brown; 3 basal spines on vein long, stout and slightly swollen at tips, both fringes long, thick and fine, posterior fringe of forewing doubled for fifty-nine hairs.

Legs fairly long, posterior and intermediate femora slightly swollen, sparsely clothed with rows of small hairs, anterior femora considerably enlarged, sparsely clothed with fine hairs with sharp triangular tooth at tip within, and also bearing in its inner margin a double row of small spiniferous tubercles; all tibiae clothed with fine hairs, the fore tibiae with a double row of very small spiniferous tubercles; fore tibiae with minute tooth, middle and hind tibiae each with two short sharp spines at tip within.

Abdomen long and slender, tube very slightly more than half as long as head. Spines on lateral margins of abdominal segments light yellow, becoming progressively longer from 2 to 8, and all prominent ones swollen at tip except one pair on 7, which is sharp-pointed. Spines on 9 slightly longer than tube, slender and sharp. Spines on tube slender and sharp. Second abdominal segment is emarginate anteriorly to receive the bell-shaped reticulated chitinous thickening of the first abdominal segment.

♂.—Cleared specimen: Length 4.17 mm. Width of mesothorax .65 mm. Head, length .65 mm., width through eyes .31 mm. Eyes in relation to size of head and insertion of antennae same as in ♀. Tubercles on side of head not quite so well developed as in ♀. Length of antennal segments, in microns:

Segment.....	1	2	3	4	5	6	7	8
Length.....	86	77	250	258	258	168	108	51

Unfortunately, the fore legs of the ♂ are lacking, but since the male agrees so closely with the female in other respects I feel sure that it will not be difficult to place. Posterior fringe double for only 41 hairs.

Described from one ♀ and one ♂ collected by Mr. W. M. Mann, from beneath bark, February, 1920, Carmelina, Honduras.

I take pleasure in naming this well-marked species after Mr. Richard S. Bagnall, that eminent English Thysanopterist,

who described the genus and family to which this species is referred.

✓ *Anomalothrips amygdali*, n. sp.

*Female*.—Color, yellowish brown, head, light brown, slightly tinged with yellow; first antennal segment light brown; legs light brown, the femora and tibiae shaded darker at the sides and somewhat darker than tarsi; second antennal segment rather dark brown; third to seventh segments intermediate in color between first and second segments, fourth and 5th segments gray at base; prothorax somewhat darker than the head, mesothorax yellowish brown; wings light brown, abdomen darker than prothorax. Eyes black by reflected light, ocelli gray, margined inwardly with light orange crescents.

Head nearly twice as long as wide, retracted within prothorax, arcuate between eyes; cheeks roughened and arched rather suddenly behind the eyes; eyes occupy about half the width of the head and a little more than half the length, rather closely faceted with medium facets, slightly pilose; ocelli larger than facets of eye, placed well back on the head, the posterior ones very close to margins of compound eye. Spines on head minute and sparse, one spine directly behind, and one in front of each posterior ocellus near margin of compound eye, a few inconspicuous spines behind each compound eye, and one small spine on the arched cheek. Antennae nearly three times as long as head, segment 1 slightly rounded much the broadest; 2 rounded, only about three-fourths as broad as 1, and one and three-fourths times as broad as segments 3 to 6; 3 to 6 capilliform; 3 bears above a slender, branched, sense cone somewhat removed from the tip, and 4 a similar cone below near the tip. A few short brown spines in 2 and 4 similarly are found in the apical third of 3. Mouth slender, reaching three-fourths across prosternum, constricted at the middle. Maxillary palpi well developed, three-segmented, segment 1 being equal in length to 3, and second segment three-fifths as long. Labial palpi small and slender.

Prothorax one and one-half times as wide as long, its anterior margin straight, sides nearly straight, posterior angles broadly rounded and bearing two stout spines of medium length, posterior margin convex. Anterior angles bear one short, stout, anteriorly directed spine and much smaller dorsally directed spine. Other spines small and inconspicuous, mesothorax broad and heavy, bearing a few short spines. The metascutum bears two rather heavy spines near the meson. Wings broad and heavy, reaching nearly to tip of abdomen, forewing at basal fourth one-tenth as broad as long; costa and veins thickly and regularly set with short, sharp, dark-brown spines; costa bears 40; fore vein 33; hind vein 22; scale 7, interior of scale 1. Fringe present in both margins of both wings, long, wavy, and brown in posterior margins, straight in anterior margins, thick except in anterior margins of posterior wings. Legs strong, of medium length, regularly set with rows of small spines which are strongest on the posterior pair and weakest in the anterior pair. Posterior tibiae armed at the tip with three very heavy dark-brown spines, and along its inner side for about half its length with a row of about 10 spines which are much heavier than the other spines clothing the legs. Median tibia with two slender, light-brown spines, at the tip within, and the anterior tibiae each with two slender, lighter-brown spines.

Abdomen with sides nearly straight to the eighth segment, thence tapering suddenly and evenly to the tenth, which is conical. A broad, dark band crosses segments 3 to 8 dorsally near the anterior edges. Posterior margins of ninth and tenth segments set with a ringlet of about eight well developed spines, of which the dorsal four are much the strongest; those on the ninth segment are much stouter and longer than those on the tenth. Segment 9 on its dorsal surface bears, about half-way between the meson and the lateral margin and about one-third the length of the segment from its anterior margin, a heavy, very dark-brown spine, which is directed posteriorly and inwardly. Stout spines, also brown, are at the posterior lateral margins of segments 5 to 8, one each on segments 5 and 6 and two each on segments 7 and 8. Segment 10 is split open above for about half its length.

Measurements of holotype: Length 1.44 mm.; head, length .112 mm., width .21 mm.; prothorax, length .163 mm., width .258 mm.; mesothorax, width .405 mm.; abdomen, width .37 mm.; antennal length 1, 36.7  $\mu$ ; 2, 42.8  $\mu$ ; 3, 65.3  $\mu$ ; 4, 70  $\mu$ ; 5, 53  $\mu$ ; 6, 73  $\mu$ ; 7, 16  $\mu$ ; segments, width 1, 36.7  $\mu$ ; 2, 28.5  $\mu$ ; 3, 16  $\mu$ ; 4, 16  $\mu$ ; 5, 16  $\mu$ ; 6, 16  $\mu$ ; 7, 10  $\mu$ . The sixth segment is constricted 20.4  $\mu$  from the tip to very nearly the diameter of the base of the seventh segment. Total length of antennae .356  $\mu$ .

Described from one specimen taken in flowers of almond, Branxton, New South Wales, by W. W. Froggett, Quaintance No. 4458.

#### *Holopothrips fulvus*, n. sp.

*Female*.—Length about 1.7 mm. Color by reflected light: Eyes and ocellar crescents, red; first two antennal segments, base of mouth cone, and ninth abdominal segment dark, blackish brown; tube black; outer half of seventh and all of eighth antennal segments dark brown; intermediate antennal segments gray; remainder of body, including legs, lemon yellow, clearing to gray in some portions. By reflected light the eyes are black, intermediate antennal segments light lemon, the remainder of body deep yellow, except ninth abdominal segment, which is brown, and the tube is blackish brown in proximal half, lighter in distal half.

Head about as broad as long, broadest at the third fourth; greatest width across eyes very little more than four-fifths the greatest width of head. Eyes large, occupying about three-fifths the length of the head and almost enclosing the ocelli, their interval in front and behind being only about one-fourth the greatest width of the eye. Ocelli large and situated anteriorly. Cheeks convex. Posterior margin of head very little wider than is head at posterior margin of eyes. Weakly striate behind eyes and bearing a few small spines. Post-ocular spines wanting. Mouth cone reaches a little more than half across prosternum. Antennae about 1.6 times as long as head, segment 1 slightly wider than long, segment 2 subcylindrical, 3 claviform, pedicellate; 4-7 subfusiform; 8 cone-shaped.

Prothorax about three-fifths as long as head, and, inclusive of coxae, twice as wide as long; only slightly wider behind than in front; spines capitate, those



at anterior angles about half as long as those at posterior angles; midlaterals about half as long as those at anterior angles; anterior marginals wanting; posterior marginals about three-fourths as stout and long as those at posterior angles. Pterothorax heavy and with sides nearly parallel. Legs of moderate size and length, tibiae and tarsi without teeth. Wings reaching to about seventh abdominal segment, rather slender, not narrowed in center; fore wings with six interlocated hairs on posterior margin. Wings hyaline in distal half, light yellow in proximal half.

Abdomen slender, no wider than pterothorax. Bristles capitate except the terminal ones and those at posterior margin of ninth abdominal segment, all of which are long and slender, those on ninth segment being almost as long as the tube and only slightly longer than the terminal bristles.

Measurements of holotype 1.89 mm.; head, length .236 mm., width .224 mm.; prothorax, length .138 mm., width through coxae .302 mm.; pterothorax, width .363 mm.; abdomen, width .363 mm.; tube, length .179 mm., width at base .089 mm., at tip .038 mm. Antennal segments in microns:

Segment.....	1	2	3	4	5	6	7	8
Length.....	32.6	48.9	69	57	66	50	36.7	28.5
Width.....	36.7	32.6	28.5	28.5	27	25	20.4	12

Described from three females taken on cotton, Bahia, Brazil, June 14, 1923, by Seignor G. Bondar.

Male colored like female, more slender than female. One of the specimens before me measures in length 1.32 mm., the other 1.8.

Described from two specimens collected with the holotype.

This species, in form, suggests the type of the genus, *signatus*, but may be easily distinguished therefrom by the coloration and by the absence of postocular spines.

#### *Heliothrips braziliensis*, n. sp.

*Female*.—Length 1.04 mm.; head, length .11 mm., width .161 mm.; prothorax, length .11 mm., width .183 mm.; mesothorax, width .257 mm. Dimensions of antennal segments, in microns:

Segment.....	1	2	3	4	5	6	7	8
Length.....	18.3	36.7	44.1	44.1	40.3	25.7	14.7	29.4
Width.....	25.7	31.2	22.0	22.0	18.3	16.5	—	—

Head and prothorax rather finely and deeply reticulate, metascutum reticulate a little less finely than head or prothorax, mesoscutum reticulate at the meson on cephalic margin, the sides and caudal margin finely striate, abdomen weakly reticulate upon cephalic margins of notal plates, striate on sides.

Color: Head, thorax, and abdomen, deep brown; all femora brown; tibiae brown, but grayish yellow in distal fourth, and only slightly so in proximal sixth, tarsi pale yellow; antennae, first, second, sixth to eighth and distal end

of fifth light brown, remainder gray. Fore wings with basal fourth gray, except for small smoky areas each side of median vein, another gray band crosses the wing near tip, occupying about one-fifth the length of wing, remainder of wing light brown, the median brown band occupying nearly half the length of the wing; hind wings gray, slightly fuscous along median vein and toward tip.

Head nearly rectangular, slightly constricted at base, arcuate above and between antennae; antennae well separated at base, normal to the genus; eyes coarsely faceted, occupying about three-fifths the length of head and about half its width; ocelli situated on slight hump, approximate, opposite center of compound eyes, margined inwardly with orange crescents, ocellus scarcely larger than facets of compound eye.

Prothorax with sides slightly arched, mesothorax with anterior angles distinctly shouldered; legs moderate in size; wings well-developed, reaching slightly past tip of abdomen, at their middle about one-twelfth times as broad as long; costa bears about 20 spines interspersed with shorter slenderer hairs; fore vein bears 3 colorless slender spines in the clear basal area, two to three dark stout spines near branching of hind vein and two other dark well developed spines near the tip; the hind vein bears 5 to 7 spines of which one or two stand within clear area.

Abdomen normal to the genus; spines upon ninth segment well-developed and reaching past tip of tenth segment. Second to eighth segments with a transverse chitinous thickening near anterior margin. Tenth segment entire above.

Described from four females. Locality Brazil, food plant not given. Collected by Prof. Carlos Moreira, November, 1922.

#### *Heliothrips bruneri*, n. sp.

*Female*.—Length 1.10 mm. Head, length .110 mm.; width .139 mm.; prothorax, length .110 mm.; width .169 mm.; mesothorax, width .220 mm.

Antennal segments, in microns:

Segment.....	1	2	3	4	5	6	7	8
Length.....	18.3	36.7	47.7	38.5	33	27.5	14.7	33
Width.....	23.8	29.4	22.	22.	20.2	18.	—	—

Color: Head and thorax brown, body dark brown, slightly lighter on tenth segment; all tarsi and fore tibiae yellow; middle tibiae yellow but slightly fuscous at middle; hind tibiae yellow in extreme thirds, brown at center; anterior femora light brown in basal half, remainder yellow, middle femora light brown, yellowish at tip; posterior femora brown like thorax; eyes dark brown, ocelli large, yellowish, approximate, margined inwardly with brown crescents; situated on sides of a hump, the anterior ocellus directed forward. Antennae with second segment dark brown, sixth segment pale brown, seventh progressively paler brown than sixth, fifth segment gray brown, third to fifth gray, wings gray brown, the basal fourth almost clear except for a small irregular brownish area along scale, veins prominent and dark brown at their branching at be-



ginning of second quarter of wing and again on margin around tip of wing in distal sixth. Hind wing yellowish gray.

Head rectangular, cheeks nearly straight and parallel arcuate above base of antennae, the front of head at center on a line with base of second antennal segment, a deep notch between compound eye and basal segment of antenna; eyes large, occupying fully three-fifths the length of the head and slightly more than half its width, facets large; ocelli subapproximate situated on sides of a hump just caudad of center of compound eye, the posterior ocelli directed slightly caudad, the anterior ocellus sharply directed cephalad; ocelli about a third greater in diameter than facets of compound eye. Head deeply and plainly striate-reticulate. Antennae normal to the genus, the third segment stalked, first to third each, having two pairs of long grayish brown spines. Mouth cone reaching across prosternum, stout and tipped with black. Maxillary palpi three-segmented.

Prothorax as long as head and one and one-half times wider than long, reticulate like head, spines minute. Mesothorax heavy; mesoscutum finely longitudinally striate on each lateral fourth, the mid-section transversely finely striate: Metascutum and metascutellum reticulate. Wings reach to tip of abdomen. Costa of forewing bears 18 to 21 long, slender, grayish-brown spines, fore vein bears three spines before origin of hind vein, 2 to 3 spines at and near juncture of veins and 2 spines near tip of wing, hind vein bears 5 spines, all situated in the second and third quarters of vein.

Abdomen normal to genus, striate on sides, anterior margins of first to ninth segments reticulate, second to eighth segments with a row of comb-like teeth on lateral fourths; third to eighth segments with a transverse chitinous thickening extending entirely across the dorsum near anterior margin. Ninth segment bears six rather long spines, the two near meson being dark brown and not quite attaining tip of tenth segment, the other four spines longer and yellowish, one pair near laterocaudal margin, the other pair on lateral margin and inserted cephalad of insertions of mesal spines. Tenth segment split open above for about three-fourths its length.

Described from 11 females, collected on sugar cane, Las Vegas, Cuba, July 13, 1921, H. C. Bruner, collector, in whose honor I have the pleasure of naming the species.

---

### THREE NEW AMERICAN CHIGGERS (ACARINA: TROMBIDIIDAE).

BY H. E. EWING, *U. S. Bureau of Entomology.*

Two of the three new chiggers here described were taken by Raymond C. Shannon while collaborating in research work on verruga for the International Health Board of the Rockefeller Foundation, one being taken from the house cat and one from a lizard. The other new species was taken from a mole in Oregon.